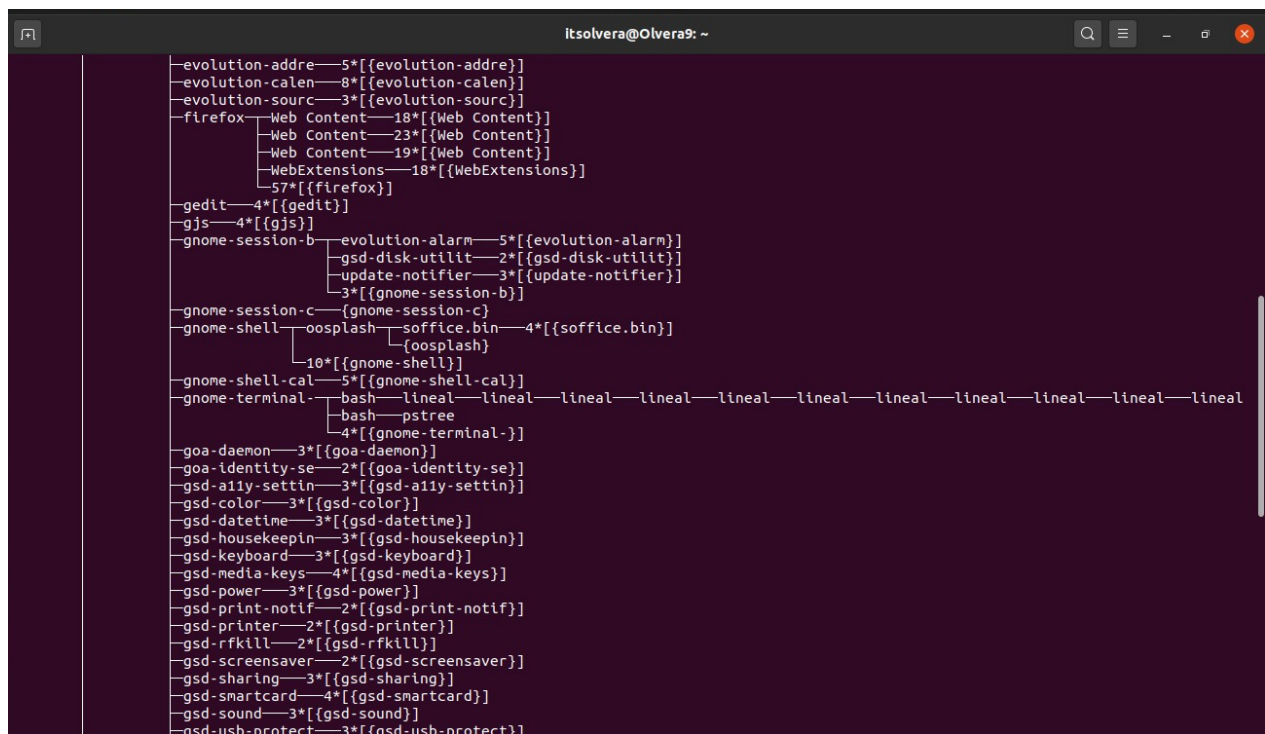**Procesos Lineal, Abanico y Zapato**
Olvera Monroy Gonzalo
2173011224

Lineal

```c
1  #include <stdio.h>
2  #include <unistd.h>
3  #include <sys/types.h>
4
5  #define N 10
6
7  int main(){
8
9      int tid, i;
10
11      for(i = 0; i < N; i++){
12          tid = fork();
13
14          if(tid != 0){
15              break;
16          }
17      }
18
19      printf("Mi valor de i es %d y mi pid es %d\n", i, getpid());
20
21      sleep(30);
22
23      return 0;
24  }
```

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Abanico

```c
1  #include <stdio.h>
2  #include <unistd.h>
3  #include <sys/types.h>
4
5  #define N 10
6
7  int main(){
8
9      int tid, i;
10
11     for(i = 0; i < N; i++){
12         tid = fork();
13
14         if(tid == 0){
15             break;
16         }
17     }
18
19     printf("Mi valor de i es %d y mi pid es %d\n", i, getpid());
20
21     sleep(30);
22
23     return 0;
24 }
```
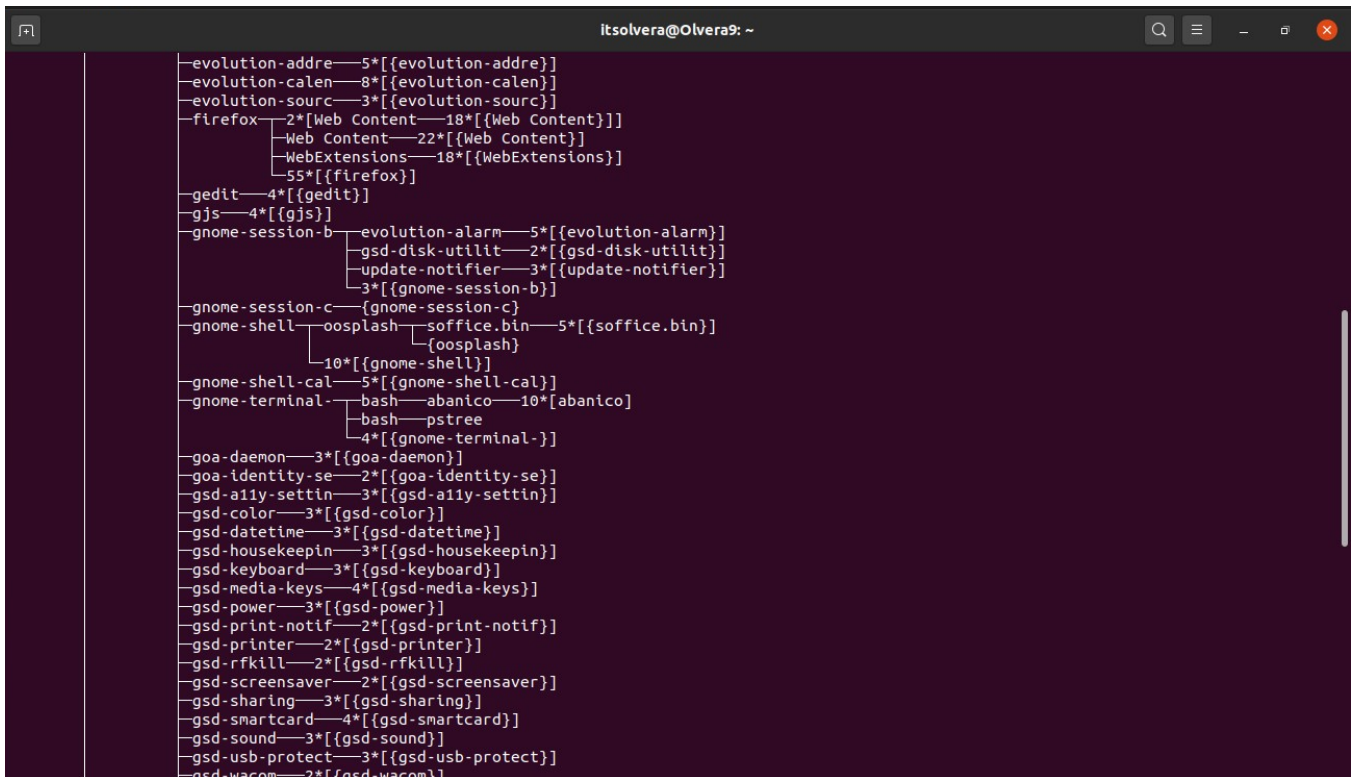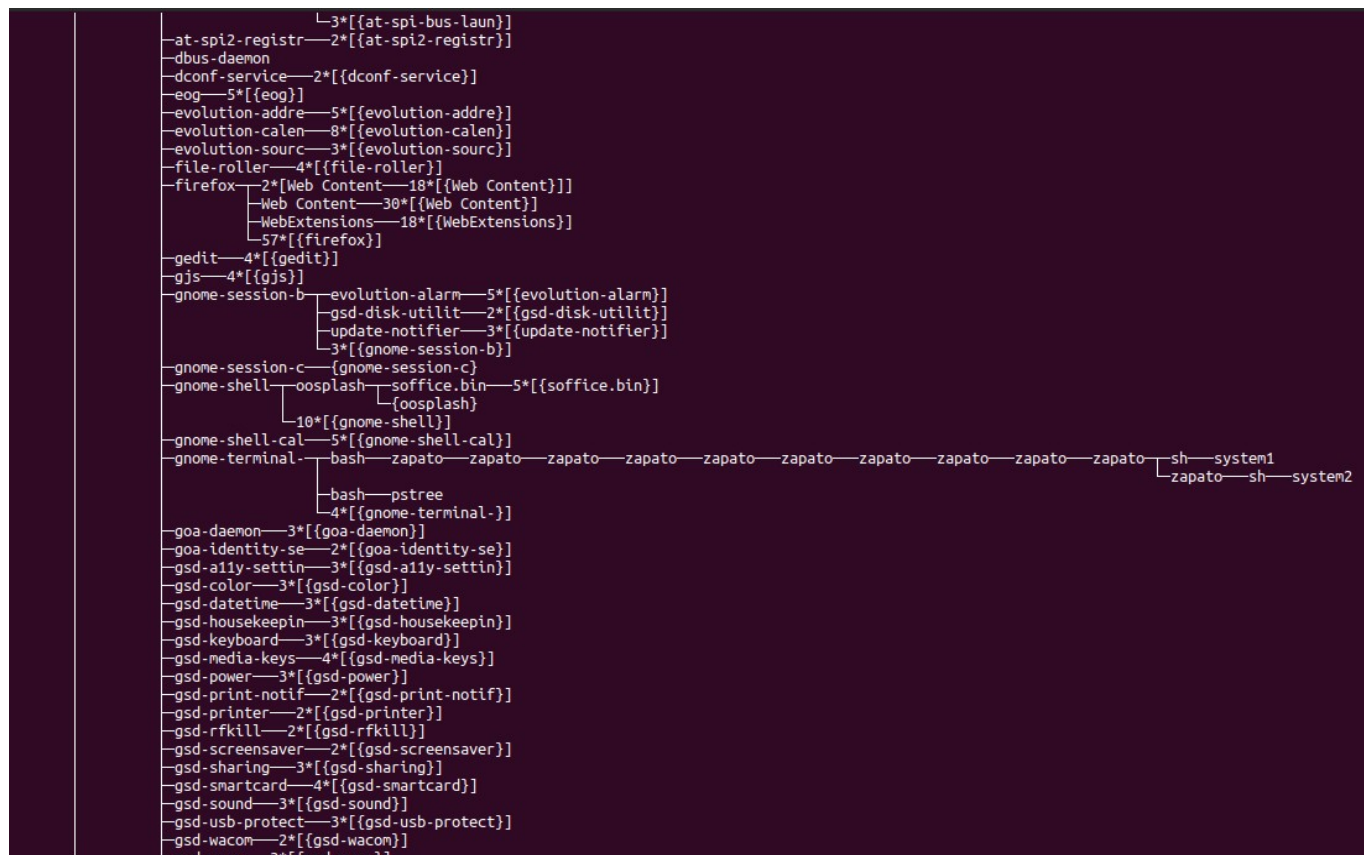
```
                    ─evolution-addre────5*[{evolution-addre}]
                    ─evolution-calen────8*[{evolution-calen}]
                    ─evolution-sourc────3*[{evolution-sourc}]
                    ─firefox─┬─2*[Web Content────18*[{Web Content}]]
                             ├─Web Content────22*[{Web Content}]
                             ├─WebExtensions────18*[{WebExtensions}]
                             └─55*[{firefox}]
                    ─gedit────4*[{gedit}]
                    ─gjs────4*[{gjs}]
                    ─gnome-session-b─┬─evolution-alarm────5*[{evolution-alarm}]
                                     ├─gsd-disk-utilit────2*[{gsd-disk-utilit}]
                                     ├─update-notifier────3*[{update-notifier}]
                                     └─3*[{gnome-session-b}]
                    ─gnome-session-c────{gnome-session-c}
                    ─gnome-shell─┬─oosplash─┬─soffice.bin────5*[{soffice.bin}]
                                 │          └─{oosplash}
                                 └─10*[{gnome-shell}]
                    ─gnome-shell-cal────5*[{gnome-shell-cal}]
                    ─gnome-terminal-─┬─bash────abanico────10*[abanico]
                                     ├─bash────pstree
                                     └─4*[{gnome-terminal-}]
                    ─goa-daemon────3*[{goa-daemon}]
                    ─goa-identity-se────2*[{goa-identity-se}]
                    ─gsd-a11y-settin────3*[{gsd-a11y-settin}]
                    ─gsd-color────3*[{gsd-color}]
                    ─gsd-datetime────3*[{gsd-datetime}]
                    ─gsd-housekeepin────3*[{gsd-housekeepin}]
                    ─gsd-keyboard────3*[{gsd-keyboard}]
                    ─gsd-media-keys────4*[{gsd-media-keys}]
                    ─gsd-power────3*[{gsd-power}]
                    ─gsd-print-notif────2*[{gsd-print-notif}]
                    ─gsd-printer────2*[{gsd-printer}]
                    ─gsd-rfkill────2*[{gsd-rfkill}]
                    ─gsd-screensaver────2*[{gsd-screensaver}]
                    ─gsd-sharing────3*[{gsd-sharing}]
                    ─gsd-smartcard────4*[{gsd-smartcard}]
                    ─gsd-sound────3*[{gsd-sound}]
                    ─gsd-usb-protect────3*[{gsd-usb-protect}]
                    ─gsd-wacom────2*[{gsd-wacom}]
```

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Zapato (system)

```c
1 #include <stdio.h>
2 #include <unistd.h>
3 #include <sys/types.h>
4 #include <stdlib.h>
5
6 #define N 10
7
8 int main(){
9
10     int tid, i;
11
12     for(i = 0; i < N; i++){
13         tid = fork();
14
15         if(tid != 0){
16             break;
17         }
18     }
19
20     printf("Mi valor de i es %d, mi padre es %d y mi abuelo es %d \n", i, getpid(), getppid());
21
22     if(i == (N-1)){
23         system("./system1");
24     }
25
26     if(i == N){
27         system("./system2");
28     }
29
30
31     sleep(30);
32
33     return 0;
34 }
```

```
                              └─3*[{at-spi-bus-laun}]
        ├─at-spi2-registr───2*[{at-spi2-registr}]
        ├─dbus-daemon
        ├─dconf-service───2*[{dconf-service}]
        ├─eog───5*[{eog}]
        ├─evolution-addre───5*[{evolution-addre}]
        ├─evolution-calen───8*[{evolution-calen}]
        ├─evolution-sourc───3*[{evolution-sourc}]
        ├─file-roller───4*[{file-roller}]
        ├─firefox──┬─2*[Web Content───18*[{Web Content}]]
        │          ├─Web Content───30*[{Web Content}]
        │          ├─WebExtensions───18*[{WebExtensions}]
        │          └─57*[{firefox}]
        ├─gedit───4*[{gedit}]
        ├─gjs───4*[{gjs}]
        ├─gnome-session-b──┬─evolution-alarm───5*[{evolution-alarm}]
        │                  ├─gsd-disk-utilit───2*[{gsd-disk-utilit}]
        │                  ├─update-notifier───3*[{update-notifier}]
        │                  └─3*[{gnome-session-b}]
        ├─gnome-session-c───{gnome-session-c}
        ├─gnome-shell──┬─oosplash──┬─soffice.bin───5*[{soffice.bin}]
        │              │           └─{oosplash}
        │              └─10*[{gnome-shell}]
        ├─gnome-shell-cal───5*[{gnome-shell-cal}]
        ├─gnome-terminal-─┬─bash───zapato───zapato───zapato───zapato───zapato───zapato───zapato───zapato───zapato───zapato─┬─sh───system1
        │                 │                                                                                                 └─zapato───sh───system2
        │                 ├─bash───pstree
        │                 └─4*[{gnome-terminal-}]
        ├─goa-daemon───3*[{goa-daemon}]
        ├─goa-identity-se───2*[{goa-identity-se}]
        ├─gsd-a11y-settin───3*[{gsd-a11y-settin}]
        ├─gsd-color───3*[{gsd-color}]
        ├─gsd-datetime───3*[{gsd-datetime}]
        ├─gsd-housekeepin───3*[{gsd-housekeepin}]
        ├─gsd-keyboard───3*[{gsd-keyboard}]
        ├─gsd-media-keys───4*[{gsd-media-keys}]
        ├─gsd-power───3*[{gsd-power}]
        ├─gsd-print-notif───2*[{gsd-print-notif}]
        ├─gsd-printer───2*[{gsd-printer}]
        ├─gsd-rfkill───2*[{gsd-rfkill}]
        ├─gsd-screensaver───2*[{gsd-screensaver}]
        ├─gsd-sharing───3*[{gsd-sharing}]
        ├─gsd-smartcard───4*[{gsd-smartcard}]
        ├─gsd-sound───3*[{gsd-sound}]
        ├─gsd-usb-protect───3*[{gsd-usb-protect}]
        ├─gsd-wacom───2*[{gsd-wacom}]
```

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Zapato
(execl)

```c
1 #include <stdio.h>
2 #include <unistd.h>
3 #include <sys/types.h>
4 #include <stdlib.h>
5
6 #define N 10
7
8 int main(){
9     int tid, i;
10
11     for(i = 0; i < N; i++){
12         tid = fork();
13         if(tid != 0){
14             break;
15         }
16     }
17
18     printf("Mi valor de i es %d, mi padre es %d y mi abuelo es %d \n", i, getpid(), getppid());
19
20     if(i == (N-1)){
21         tid = fork();
22         if(tid == 0){
23             execl("./execl1", "Soy execl1", NULL);
24         }
25     }
26
27     if(i == N){
28         tid = fork();
29         if(tid == 0){
30             execl("./execl2", "Soy execl2", NULL);
31         }
32     }
33     sleep(30);
34     return 0;
35 }
```